

Morgue Services

This section of the toolkit focuses on mass fatality morgue services. As a normal function of the Medical Examiner/Coroner's Office, morgue services are very familiar. What is different in a mass fatality is the scale of the event and the organization that is required to respond effectively.

Overview

Morgue Services is organized to support the highest standards for morgue operations, decedent identification, and data management. This is critical to ensuring the efficient, accurate, and timely identification of the deceased.

Guidelines are provided for:

- Administration.
- Information Resource Center.
- Receiving.
- Initial holding.
- Photography.
- Personal effects.
- Fingerprinting/foot printing.
- Pathology/autopsy.
- Dental identification.
- Radiology.
- Anthropology.
- DNA.
- Identification confirmation.
- Final holding.
- After care (embalming and/or casketing).
- Release of human remains for final disposition.
- Logistics (staffing, communications and information systems, equipment and supplies, and facility requirements).

The information provided will allow for variations and scalability based on the nature, size, and complexity of the mass fatality.

Information on a Long-Term Examination Center/Sifting Site is also presented. This site will normally operate after the temporary incident morgue is closed and the disaster is officially over. It is needed for mass fatality events in which there is extensive property destruction with commingling of remains.

Key resources for this section are:

- *California Coroner Operations Guide, Part 2*, State of California Law Enforcement Branch, California Office of Emergency Services, 2003.
(<http://www.oes.ca.gov/Operational/OESHome.nsf/Content/A3F586FD13D795C788256B7B0029BBFF?OpenDocument>. And, then clicking on Coroner's Mutual Aid)
- *California Dental Identification Team Operations Manual*, March 2003.
([http://www.oes.ca.gov/Operational/OESHome.nsf/0d737f261e76eeb588256b27007ac5ff/a3f586fd13d795c788256b7b0029bbff/\\$FILE/CalDITplan.pdf](http://www.oes.ca.gov/Operational/OESHome.nsf/0d737f261e76eeb588256b27007ac5ff/a3f586fd13d795c788256b7b0029bbff/$FILE/CalDITplan.pdf))
- *California Mass Fatality Management Guide: A Supplement to the State of California Coroners' Mutual Aid Plan*, The State of California Governor's Office of Emergency Services, September 2007.
(<http://www.oes.ca.gov/Operational/OESHome.nsf/Content/A3F586FD13D795C788256B7B0029BBFF?OpenDocument>. And, then clicking on Coroner's Mutual Aid)
- *DMORT Standard Operating Procedures for National Transportation Safety Board Activations*, Disaster Mortuary Operational Response Team, 2006.
(<http://www.dmort8.org/DMORT%20NTSB%20SOP%20Nov%202006.pdf>)
- *Flight 93 Morgue Protocols*, DMORT III protocol to document morgue operation for the United Airlines Flight 93 response.
(<http://www.dmort.org/forms/index.html>)
- *Lessons Learned from 911: DNA Identification in Mass Fatality Incidents*, National Institute of Justice, 2006.
(<http://www.massfatality.dna.gov/>)
- *Mass Fatality Plan*, National Association of Medical Examiners.
(<http://www.dmort.org/FilesforDownload/NAMEMFIplan.pdf>)

Key Assumptions

The following are the key assumptions underlying Morgue Services.

- The expectations of family members, the general public, politicians and the media concerning identification of victims and morgue services are high.
- Morgue services are performed according to professional protocols to ensure accurate identification of human remains and, under certain circumstances (e.g., commercial airline accident and criminal or terrorist act), to preserve the scene and collect evidence. Waiving professional protocols will be a last resort that would only be used in extreme situations.
- The State Department of Justice, upon request, may assist in the identification of the deceased through their missing persons database using physical, dental, and fingerprint identification and/or through DNA testing.
- The California Office of Emergency Services, upon request, may authorize the mutual aid use of the California Dental Identification Team (CalDIT) to assist the ME/C in decedent identification through forensic odontology.
- Notification of death may require:
 - For out-of state deaths, the involvement of the state to assist the ME/C in sending

- death notification information to the appropriate out-of-state law enforcement agency for notifying next of kin.
- For deaths of citizens of other countries, the Agency for International Development, Office of Foreign Disaster Assistance to assist in contacting a deceased foreigner's family through the appropriate embassy.
- The state, upon request, may assist in obtaining portable or fixed clear span facilities that can be used for field morgue and temporary human remains storage purposes.
- Refrigerated vehicles for the transportation and/or temporary storage of human remains may be in short supply.
- Additional Local, Regional, State and Federal resources may be required to effectively perform morgue services.
- Responding to a mass fatality incident can be overwhelming, leading to traumatic stress. Support for responders is essential to monitoring and minimizing the impact.

Proposed Approach



Describe the key components of morgue services and logistics requirements. Review mass fatality planning that your Medical Examiner/Coroner (ME/C) has already done in this operational area and build on that as needed. Substantial research regarding morgue services in a mass fatality has been done for you and is presented in the information below.



The key stakeholder for this section is the local jurisdiction ME/C Office. It is essential that the Medical Examiner/pathologist participate in the development and review of this section. Consultation with Logistics is also needed.

Developing Your Morgue Services Plan

Step 1: What is the purpose of morgue services?

The purpose of Morgue Services is to determine the cause of death and to identify the victims.

Step 2: Who is in charge of morgue services?

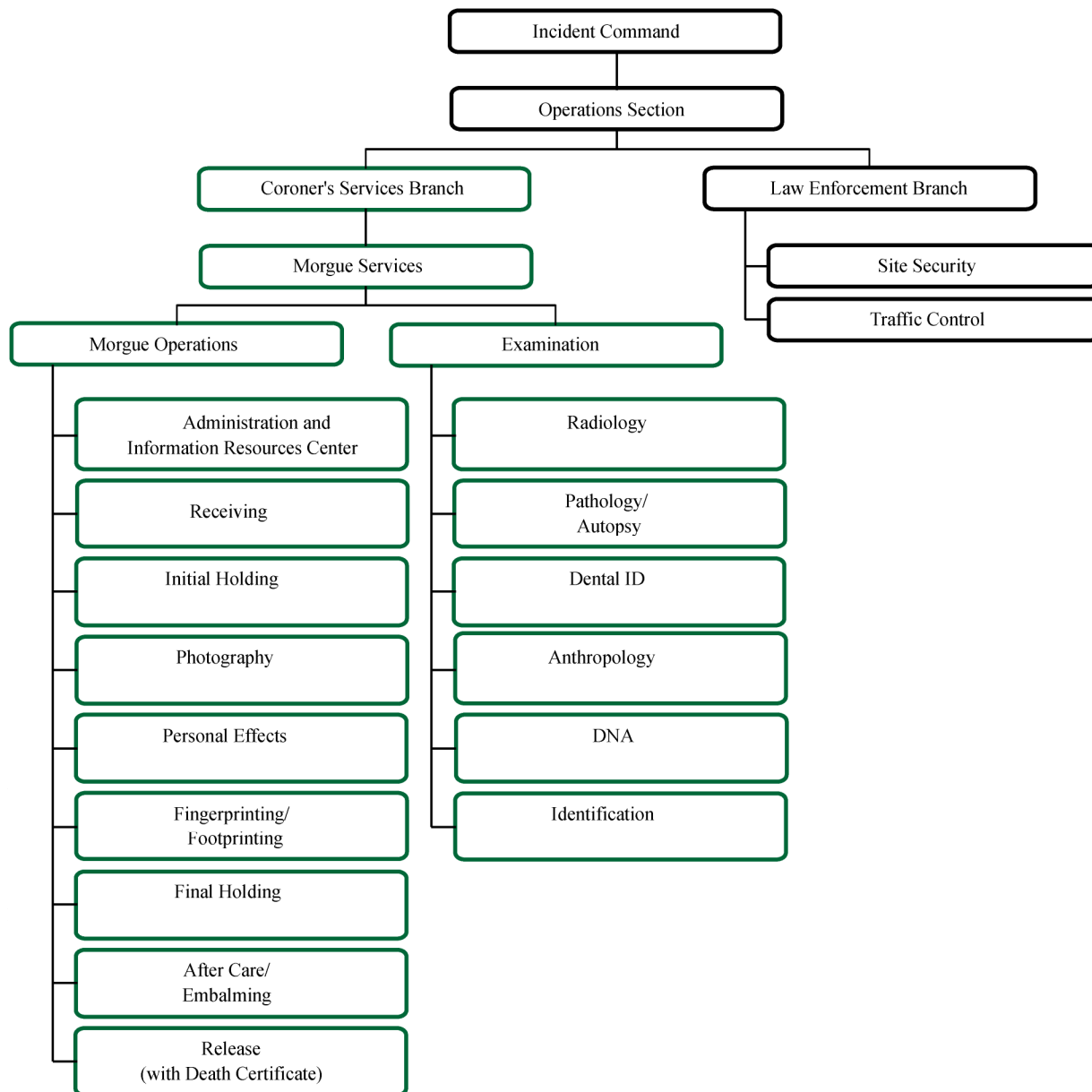
The Medical Examiner/Coroner is in charge of morgue services in a mass fatality.

Step 3: How are morgue services organized?



An example of an organization for mass fatality Morgue Services is presented below.

Example of Field Organization for Mass Fatality Morgue Services



- Identify staff requirements and alert staff. Request staff assistance (Logistics for local staff; and/or Coroner Mutual Aid, including CalDIT, DMORT, etc.) as needed.
- To ensure worker safety, plan to comply with safety plan and have health provisions in place (includes PPE and ensuring that appropriate immunizations for all staff—Tetanus, Hepatitis B—are up to date).
- Assign Morgue Operations Group Officer in Charge (OIC), and Examination Group OIC.
- Assign team leaders and/or supervisors for each morgue station/function.
- Assign an Information Resource Center team leader to set up procedures and oversee the Information Resource Center (IRC).
- Assign an incident morgue registrar to set up a system and procedures for records management.
- Establish procedures/protocols for morgue operations stations/functions that build on

procedures presented in this toolkit for each station/function and are appropriate to the nature of the incident.

- Assign data entry operators and data analysts. If computers and access to CME or VIP are not available for all stations and WIN ID at Dental Station, morgue records will be maintained on paper and entered into CME or VIP and WIN ID afterwards in the IRC.
- Arrange for daily back-up of all electronic files.
- Ensure that all photographers have signed the *Release of Copyright* form.
- Ensure compliance with the Health Insurance Portability and Accountability Act (HIPAA) of 1996, Public Law 104-191 and additional local laws that protect privacy of morgue information and records.
- Maintain Personnel Log (daily attendance and time worked).

Equipment and Supplies

- Keep an inventory of and track all equipment and supplies—donated, loaned and purchased items.
- Arrange for refrigerated (35-38° F) trucks with ramps to allow access and egress to transport human remains (a 40 foot truck/trailer can hold ~22 bodies/pouched remains).
- Secure personal protective clothing (PPE) for personnel that is appropriate for the incident.
- Arrange for communications (telephones, cell phones, radios, fax, and paging systems). Local cell operators may designate a specific reserved air wave.
- Determine number of computers needed and arrange for computers with software (e.g., CME and/or VIP, WIN ID, supplies, tracking, etc.).
 - Note, if CME or VIP is accessible, computers will be needed at *all* stations.
 - WIN ID is set up in the Dental Station (minimum 1 computer for postmortem and 2 computers for comparison).
- Arrange for adequate number of required forms:
 - Personnel log that includes name, agency, Social Security Number, and in and out time.
 - Postmortem forms. Hard copies of forms are necessary even if mass fatality

- software, such as DMORT's VIP, is used.
 - Antemortem forms (a copy even though antemortem data collection takes place outside of the morgue).
- Arrange for office equipment and supplies (e.g., copiers, faxes, typewriters, log books, etc.).

Preparation for Morgue Examination Functions

- Prepare to use the human remains tracking system that was initiated from the onset of the incident and is being used at the Incident Site.
- Prepare station processing plans and procedures/protocols, building on guidelines presented in this toolkit for each station.
 - Procedures/protocols will reflect the nature of the incident, number and condition of the decedents, weather conditions, and complexity of search and recovery.
- Determine policies/procedures regarding photography and cell phone use in the incident morgue.
- Arrange for staff support (rest areas, toilet facilities, showers, food and beverages, mental health services, place to secure staff possessions while working, etc.).
- Make arrangements for laboratory analysis (toxicology, histology, DNA, etc.).
 - The Armed Forces DNA Identification Laboratory (AFDIL) may be a resource for assistance with the DNA Station and/or with DNA analysis.
- Determine if embalming will be required at the incident morgue.

Select agency/company (most likely a contractor) that specializes in the processing of personal effects for the processing of personal effects.

Incident Morgue Preparation

If a temporary incident site morgue is needed:

- ME/C requests assistance with incident morgue setup through Coroner Mutual Aid (e.g., request DMORT Disaster Portable Morgue Unit).
- ME/C determines layout/workflow for the temporary incident morgue considering the physical condition of the victims, the number of victims, and the number of personnel needed to perform morgue functions. The layout will have stations for all operational areas:
 - Administration (morgue management and administration).
 - Information Resource Center (electronic comparisons of antemortem and postmortem records).
 - Receiving (unprocessed remains storage, chain of custody implementation, and radiograph of remains container).
 - Screening/Triage Station (sort remains, personal effects, and evidence; select remains having potential for ID based on incident guidelines and probative value; and determine path—short or long—for examination and identification).
 - Admitting Station (numbering, Disaster Victim Packet (DVP), and tracker

assigned).

- Documentation Station (photography and personal effects).
- Print Station (finger, palm and foot).
- Radiology/X-ray Station (radiology).
- Dental Station (dental identification).
- Pathology Station (complete or partial autopsies).
- Anthropology/Morphology Station.
- DNA Recovery Station.
- Processed Remains Storage (in separate area of receiving station).
- Identification Team Station (identification confirmation and death certificates).
- Embalming Station (if it is determined that it is needed).
- Release of Human Remains Station (may be same area as the receiving station).
- Area for rest and emotional, spiritual, and medical support, storage of personal

belongings, briefings, restrooms and showers, and area(s) for storing, donning, doffing, and disposal of PPE.

For management purposes, the morgue services division is divided into two groups—morgue operations and examination.

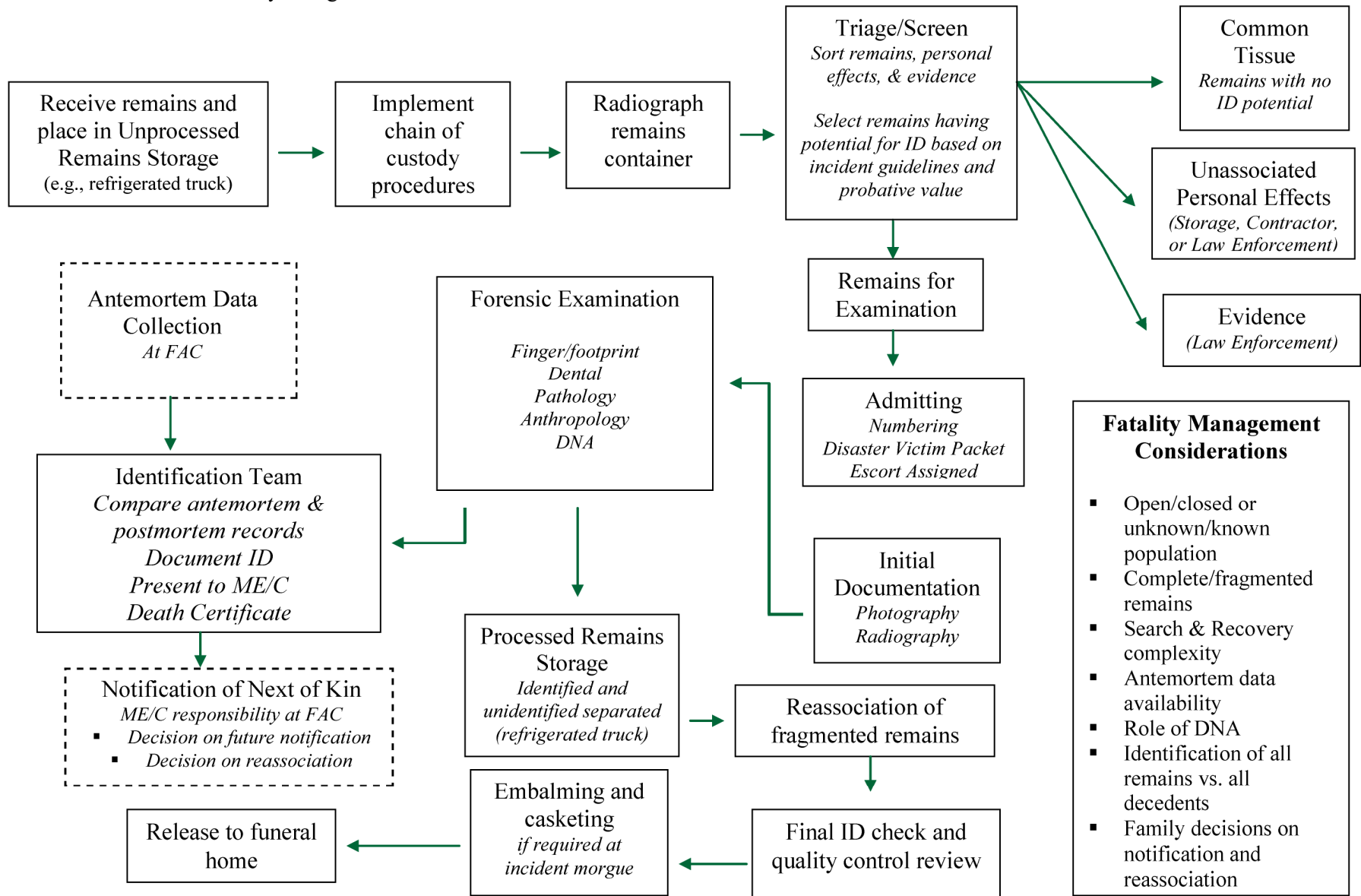
Morgue Operations includes Administration, the Information Resource Center, Receiving Station, Screening/Triage Station, Admitting Station, Documentation Station, Print Station, Final Holding, Release or Human Remains, and After care Station.

The Morgue Examination Group includes stations for radiology, dental identification, pathology, anthropology/morphology, DNA retrieval, and identification confirmation meetings.

Mass Fatality Morgue Services Flow Chart

The following page presents a flow chart of mass fatality morgue services.

Mass Fatality Morgue Services Flow Chart



Guidelines for the Morgue Operations Group

The Morgue Operations Officer in Charge (OIC) oversees the operational functions and personnel. The OIC obtains necessary supplies and equipment related to morgue operations duties by interacting with Morgue Services Logistics and maintains communication with other divisions/groups.

Morgue Operations includes Administration, the Information Resource Center, Receiving Station, Screening/Triage Station, Admitting Station, Documentation Station, Print Station, Final Holding, Release or Human Remains, and After care Station.

All Morgue Operations Staff

Prior to the commencement of morgue operations and at the beginning of each shift a briefing will be conducted. The briefing will include but not be limited to:

- Orientation and/or updates.
- Safety procedures.
- Necessity for security and confidentiality of all records and data.
- Workflow/procedural issues.

Administration Station

Administration is a critical area of the morgue. It houses the Morgue Services Officer in Charge, Logistics Officer (and team), and personnel/volunteer management staff.

- Manage/Oversee all morgue operations.
- Manage personnel, supplies and equipment.
- Enter data into appropriate electronic incident management tool system.
- Maintain all documentation of labor time and purchases needed for reimbursement:
 - Daily attendance rosters and time worked logs.
 - Mission number assignment from the Emergency Operations Center.
 - Tracking of all supplies and equipment requested, loaned and received.
- Report staffing, supplies, and equipment needs to EOC Logistics and/or the ME/C if Mutual Aid resources are needed.
- Maintain adequate supplies of:
 - General morgue forms.
 - Disaster Victim Packets (DVP).
 - Embalming forms (if required).
 - Death certificates.
 - Release Forms.

Information Resource Center

The Information Resource Center is the central repository for collection, recording, and storage of antemortem and postmortem information. The IRC procedures include a record library, antemortem records tracking procedures, database management system, and management of mass fatality incident victim records.

All records and data must be kept secure and confidential because they are protected by the Health Insurance Portability and Accountability Act (HIPAA) of 1996, Public Law 104-191, and additional applicable local laws.

No information will be released to any person(s) or agencies without proper authorization from the ME/C.

At the conclusion of the incident, all records and data collected become the property of the local ME/C.

DMORT's Victim Identification Program (VIP) software can be used to assist in managing the information, if the local ME/C does not have a system in place. Personnel trained in the information system(s) being used are required to handle data management. If a DMORT Disaster Portable Morgue Unit (DPMU) and VIP software are used, network support and troubleshooting for the VIP data system is the responsibility of the DPMU team.

- Staff include IRC Team Leader and staff familiar with software to enter data into electronic systems and for antemortem and postmortem data matching.
- Establish IRC procedures and protocols.
- Assure security of information systems and records.
- Establish procedures for data entry, for matching antemortem and postmortem files, and for quality assurance.
- Receive electronic antemortem data from Family Assistance Center.
- Enter antemortem data that is received as hard copy into selected electronic system.
- Enter postmortem data into appropriate electronic system (if not already done at morgue stations):
 - Once entered in the computer, an internal case number will be generated. Unique number(s) generated earlier, will be cross-referenced on the narrative section on the face page of the report.
- Review antemortem and postmortem files/records to identify possible matches using search and comparison functions.
- Appropriate forensic specialist reviews possible/presumptive identifications and completes *Identification Summary Report* for Identification Team.
- Establish back-up protocols for computer files (e.g., backup twice a day), using standard computer backup system used by ME/C Office/DMORT.

Records Library

- Assign Registrar to manage the records library and staff to file and manage hard copies of records.
- Establish procedures for postmortem and antemortem records management.
 - Four major file categories:
 - Unidentified remains case files in morgue case number order.
 - Missing person reports case files (antemortem data collection interviews) in last name alphabetical order.
 - Identified remains (the ME determines which master number to use and merges all related materials into one file).
 - Court issued presumptive death certificates and related documents (if applicable).
- Manage records and perform file quality assurance.
- Notify appropriate station(s) if any relevant antemortem information becomes available for a decedent.
- Do not release any records without approval of the ME/C.
- Only shred confidential documents that are no longer needed (e.g., duplicates) after review and authorization by the IRC Team Leader and/or ME/C.

Receiving Station

Receiving

Receiving is where the decedents (in body bags) are delivered from the Incident Site. All incoming body bags and property bags are documented.

- Establish procedures/protocols for Receiving Station.
- Receive and review *Transportation Log* and accompanying remains.
- Log-in documentation accompanying human remains (date, time, and tag number/numbering from the scene).
- Place in initial holding, a temporary holding morgue or refrigerated vehicle being used for temporary holding.
- Implement chain of custody procedures.

Radiograph

All body bags are radiographed to facilitate safe handling of collected remains.

- Establish procedures/protocols for radiographing body bags.
- Radiograph entire, unopened remains container (do not open bag) and label radiograph with the field number assigned by the Search and Recovery Team.
- Pathologist or anthropologist (with augmentation from other appropriate staff, e.g., bomb technician, law enforcement evidence technician, etc.) reads radiograph.

- Use radiographs to assess the contents of the bag so that more effective sorting can be completed at triage and any associated hazardous materials (knives, guns, bomb parts, etc.) collected with the remains can be safely managed.

Screening/Triage Station

Screening/triaging is performed per incident-based guidelines to separate remains, personal effects, evidence and debris delivered from the incident site in the body bag. The examination path remains will take is also determined.

- Establish procedures/protocols for Screening/Triage Station.
- Open bags delivered from scene.
- Using radiographs of bags taken prior to screening/triage, separate diagnostic human tissue from material evidence, debris and personal effects.
 - Photograph prior to disturbing clothing, property, foreign objects.
- Personal effects are not removed from human remains if removal will damage or compromise remains.
- Complete anatomic charting.
- If deemed necessary, apply appropriate protection to oral, facial, skeletal or other structures to insure integrity of those structures.
- Document and describe any personal effects or evidence that is removed.
- Route potential evidence to law enforcement using chain of custody forms.
- Route unassociated personal effects using chain of custody forms to selected team/private company (most likely a contractor that specializes in the processing of personal effects) selected by ME/C.
- Log bag number and other information into *Triage Log*.
- Evaluate remains.
- Determine path for examination/identification based on protocol:
 - Long path—continue through all subsequent stations.
 - Short path—Photography, Radiology, Anthropology and DNA Retrieval Stations only.
- Bag human tissue/remains having potential for ID based on incident guidelines and probative value (remains with highest likelihood for identification).
 - Attach a Disaster Victim Packet (DVP) with *Tracking Form* attached on front of packet.
- Note the stations where the specimen should be routed on the DVP Tracking Form.
- Store tissue that does not have potential for ID and unassociated personal effects as determined based on the incident.
- If personal effects or dangerous material items (e.g., bomb fragments) could not be removed without possible damage, notify the ME/C and leave effects associated with tissue.
 - Mark the DVP to alert future stations.
- Screening/Triage scribe signs and dates the DVP.
- Route to Admitting.

If remains are determined, at any station, to be unrelated, they will be separated and returned to Screening/Triage for assessment.

Admitting Station

The Admitting Station is where remains and personal effects morgue reference numbers (MRN) are added, Disaster Victim Packets are numbered, and trackers are assigned.

The tracker will accompany the remains—staying with them at all times—until examination/identification is complete, ensure the security of the case file, and ensure that proper documentation is complete, signed, and attached at each station.

Religious and cultural customs concerning the handling of remains will be considered and adhered to if they do not impact the examination of remains. The ME/C will make the final determination on how religious and cultural practices are addressed.

- Establish procedures/protocols for Admitting Station.
- Admit remains with associated personal effects (per protocol).
- Enter information in *Morgue Admission Log*.
- Number remains and associated personal effects using the a simple ascending numbering system that is referenced with the incident site number.
 - Each body or fragment thereof is assigned a separate MRN.
 - If the morgue electronic system is used at this time, the software's morgue reference number can be used for each body or fragment thereof and be cross referenced with the incident site number.
 - If a bar code or radio frequency tagging (RFID) system is used to track bodies and fragments through the morgue stations, a number and bar code will be assigned and the Admitting Station will print corresponding sheets of bar code stickers to be included in the DVP. As the body proceeds through the stations, the tracker will be responsible for attaching a unique bar code to that body and to all x-rays and papers generated through the process.
- Assign a body tracker (one per body bag with associated personal effects), who will remain with the assigned case while the case is processed in the morgue.
- Transfer DVP with *Tracking Form* attached on front of packet and chain of custody form to the assigned tracker.
- Direct tracker to Documentation Station.

Documentation Station

The Documentation Station is where remains and personal effects are documented. All remains and/or fragments and personal effects are photographed.

- Establish procedures/protocols for Documentation Station.
- Photograph remains and personal effects following ME/C Office policy regarding the

photography of human remains:

- photograph prior to disturbing clothing, property, foreign objects,
- proper documentation in photo, and
- use of scale in photo, etc.
- For complete bodies, take standard autopsy-type photographs (anatomical position).
- Where possible, take full-face photographs.
- Ensure entire remain is present in the photograph.
- Enter information in *Photography Log*.
- Personal effects:
 - Follow standard operating procedures for handling personal effects.
 - Tag and log all effects.
 - Document personal effects by completing *VIP DMORT Program Clothing Inventory and Jewelry Inventory*.
- Ensure that all documentation is complete (hard copies of digital photographs, if possible) and placed in the case file.
- Give DVP with Documentation Station and chain of custody forms completed and *Tracking Form* checked and signed to the tracker.
- Direct tracker to next station.
- Send digital files to Information Resource Center for inclusion in VIP.

Print Station

The Print Station is where finger/foot/palm printing of remains or body parts is performed.

- Establish procedures/protocols for Print Station.
- Enter information in *Print Station Log*.
- Print all remains with finger, palm, and/or foot.
- Fingers or hands are removed only at the discretion of the ME/C Pathologist. If removed, place in a properly identified container and place them back with the body after processing.
- Complete *VIP DMORT Program Fingerprinting* and place in the DVP.
- Sign and date *Tracking Form*.
- Give tracker DVP with completed *VIP DMORT Program Fingerprinting* and *Tracking Form* checked and signed.
- Direct tracker to next station.

Final Holding Station

(Located at/near Receiving Station)

Final holding is the refrigerated area where remains that have been processed are held until release. All human remains (identified, unidentified, and common tissue) will be stored with dignity.

In keeping with tradition established 9/11 at the World Trade Center, consider having all remains in morgue blessed by clergy every day.

The holding areas for processed victims and for common tissue will be separate from that for remains that have not been processed and from where specimens (e.g., for DNA, histology, and toxicology) are stored while awaiting transfer to the lab for analysis.

- Establish procedures/protocols for Final Holding Station.
- Tracker returns the remains to the Receiving Area.
- Maintain a Movement Log Sheet
 - Number of body bags comprising the decedent's remains,
 - Date and time in or out of storage,
 - Name and signature of tracker,
 - Name and signature of storage worker releasing or accepting body bag(s), and,
 - If more than one refrigerator is used, record which unit the decedent's body bag(s) are stored in.
- Direct the remains to be transferred to the appropriate, secure, designated "processed" refrigerated area where its return is documented.
- The refrigerated area must be fully staffed with Receivers and Security.
- Maintain chain of custody.
- The tracker takes the DVP to the IRC for filing.
- Hold remains until victim can be released for final disposition.
- At direction of ME/C Office based on the decision of the Coroner's Services Branch Director, document and store unidentified body parts as "common tissue." Subsequent disposition will be the responsibility of the ME/C Office in consultation with victim/family groups and consistent with laws and resources.

Toxicology, Histology and DNA Specimens To Be Analyzed:

- Special storage sites will be designated for DNA, histology and toxicology specimens.
- Hold specimens until they are picked-up by authorized person for processing.

Release of Human Remains for Final Disposition Station (Located at/near Receiving Station)

This is where identified decedents and their personal effects are released to next of kin or a person authorized by next of kin. Release functions include, preparation, final identification review, and funeral home contact. Preparation of human remains may include reassociation and/or aftercare (embalming and casketing). All human remains will be prepared with professionalism and transported to authorized funeral home/crematory with consideration.

Preparation for Release

- Establish procedures/protocols for Release Station.
- Prepare remains for release.
- If remains are fragmented and the next of kin has requested that they be reassociated:
 - Reassociate remains of one decedent at a time.
 - Remove all of a decedent's remains from storage to area designated for reassociation.

- Use appropriate documentation (Identification Summary Report, DNA laboratory results, VIP forms, postmortem photographs) to select the appropriate numbered remains for the decedent.
- Examine to ensure that the physical characteristics are identical to those on associated documentation.
- After review, place all remains associated with the decedent in the appropriate container (e.g., casket, transfer case, body bag, etc.).
- Return associated remains to storage or send to embalming (if requested by next of kin and done at the incident morgue).
- If remains are to be released, send to Final Identification Review before release.

Final Identification Review

- Establish procedures for Final Identification Review.
- When remains are ready to be released, the Identification Team Leader and forensic specialists involved in the identification will:
 - Conduct a final review of the methods of identification.
 - Physically examine the remains to ensure that the remains match the biological attributes of the deceased (based on the antemortem information).
 - Ensure that the numbers associated with each remain are accounted for.
 - Sign and date the form indicating that the remains have been reviewed for final identification and place it in the DVP.
- If next of kin/legal authority authorized after care and it is provided at the incident morgue, route to the After Care Station.

Contact with Funeral Home

- Establish procedures/protocols for contacting funeral homes and crematoriums.
- Liaison with funeral homes and crematoriums to coordinate pickup or the shipping of remains.
 - When ME/C notifies next of kin, gather the following information:
 - Name of funeral home or crematorium.
 - Contact person at funeral home.
 - Location (city, state, zip code).
 - Telephone and fax number.
 - If funeral home/crematorium is not local, get information on the best airport or train station to which decedent should be shipped.
 - Inform the funeral home/crematorium of the schedule once the transportation arrangements have been made.

Final Release

- Establish procedures/protocols for Final Release.
- Keep a log of remains/bodies that are cleared for release and those on hold.
- Check/assure that remains/bodies are prepared for release as authorized by next of kin.
- Complete Release of Human Remains form and Release of Personal Effects form.

- Release human remains and associated personal effects that are not deemed evidence to authorized person/funeral home according to the standard operating procedure of the ME/C Office once the final identification review has been completed.
 - Separate personal effects from remains, inventory, and get signature of the family's contracted funeral home/authorized person.
 - Implement chain of custody.
- Maintain a *Release Log* to document the overall release process.
- When decedents are transported from the morgue as part of incident morgue services:
 - Obtain the required burial-transit-cremation permit and other documentation required by the receiving funeral home and provide a copy to the IRC.
 - Place documentation in envelope that is securely affixed to the head end of the outside container.
 - If released with the remains, personal effects will be released on a chain of custody form and the receiving funeral home shall inventory and sign for all items received.
 - Hearses and other appropriate vehicles will be used for transport.
 - Maintain a log reflecting the date, time, transfer vehicle identification, transfer personnel identification and destination.
 - Instruct drivers to travel directly to the destination and directly back to the morgue without any stops except at a designated staging area or to refuel.

After Care Station



If after care is provided at the incident morgue, it will include embalming and casketing. As part of your jurisdiction's planning process, you will need to determine:

- The circumstances under which after care will be provided at the incident morgue.
- The circumstances under which it will be discontinued when it is provided.

In general, this function is only carried out at the incident morgue if conditions are such that human remains cannot be preserved adequately for morgue examination or if funeral homes and crematories are so overwhelmed that final disposition cannot be carried out within a reasonable timeframe. Otherwise, the next of kin or legal authority can contact a funeral home to perform this function or authorize cremation as the final means of disposition.

It is important for mortuary representatives to participate in this decision since providing after care could be mean a loss of business for them. It may also be helpful to involve Vital Records since the After Care Station will need to apply for and manage final disposition permits—which is normally handled by the mortuary—if after care is provided.

Embalming

Thorough disinfection, preparation, and minor reconstructive surgery procedures are accomplished on each body or part of body when authorized by the appropriate next of kin or legal authority.

The volume of remains, morgue flow and number of shifts will determine the staffing level of embalmers.

- Establish disaster-specific guidelines/procedures/protocols for embalming.
- Enter victim information in *Embalming Station Log*.
- Review next of kin or legal authority approval for embalming (must be in writing).
- Assign two licensed embalmers (with knowledge of postmortem reconstructive surgery) to assess remains according to the potential for viewing by next of kin and any other aspects that may impact embalming.
- Use embalming and minor reconstructive surgery techniques to enhance the possibility of “viewability” of the deceased.
- Complete *External Preparation/Embalming Case Report* and *Embalming Classification of Human Remains* and place in the DVP.

Casketing

When casketing is provided, human remains will be placed in a casket, dressed when appropriate, and relocated to the incident morgue shipping point, located at Receiving.

- Establish procedures/protocols for casketing.
- Maintain log identifying receipt of remains for casketing and the date and time the casket is relocated to the morgue shipping holding area (most likely, at or near the Receiving Station).
- Dress decedents with supplied clothing.
- Place decedent in plastic pouch, if advisable.
- Place decedent in casket and/or other supplied container (Ziegler type cases, shipping boxes, air trays, etc.), using acceptable blocking material to prevent shifting in transit.
 - No personal effects, except burial clothing, should be in the casket or container.
- Place decedent’s name on the outside of the casket/container.
- Ensure that the person who is supervising the shipping holding area signs the appropriate form and that the signed form is inserted into the DVP.

Cremation

- Establish procedures/protocols for handling cremations.
- Authorization to release the decedent or remains to a specific crematory or funeral home must be signed by next of kin or legal authority.
- Upon request of the next of kin, the decedent or remains may be embalmed and then shipped to the authorized funeral home or crematorium for cremation.

- Any necessary ME/C cremation authorization will be secured and released with the decedent remains.

Guidelines for the Examination Group

The Examination Group Officer in Charge monitors progress of specialists in the Examination Group, channels information to the Morgue Operations Group and the Coroner's Services Branch at the Emergency Operations Center, and ensures that documentation received is assigned to appropriate specialist.

The Morgue Examination Group includes stations for radiology, dental identification, pathology, anthropology/morphology, DNA retrieval, and identification confirmation meetings.

It is the responsibility of the Examination Group to maintain strict confidentiality of all documentation.

All Morgue Operations Staff

Prior to the commencement of examination and at the beginning of each shift a briefing will be conducted. The briefing will include but not be limited to:

- Orientation and/or updates.
- Safety procedures.
- Necessity for security and confidentiality of all records and data.
- Workflow/procedural issues.

Radiology Station

The Radiology Station conducts radiographic examinations to provide postmortem radiographs for comparison with antemortem clinical radiographs and to detect evidence. The radiologist also assists in the interpretation of radiographs.

This station should be established in an area of the morgue that is secluded from other processing stations and have portable lead protective walls. The radiology team leader will monitor radiation safety issues such as shielding; monitor radiation dosage of team members via dosimeters; and assign dosimeters to other morgue personnel, as appropriate, considering location and shielding of the x-ray unit.

- Establish procedures/protocols for the Radiology Station.
- Enter information in *Radiology Station Log*.
- Take full body x-rays, if possible.
 - Whenever possible, the remains should be positioned so that standard and conventional views are obtained for ease of comparison with antemortem films.

- When dealing with fragmented remains, this may require the assistance of an anthropologist or pathologist.
- Take complete radiographs of the abdomen and chest region.
- Include a clear view of the sinuses in Anterior Position and lateral radiographs.
- Take radiographs of the extremities as needed.
- Take dental x-rays, if not part of the Dental Station.
- Maintain log of all films.
- Mark each radiograph with the corresponding morgue reference number.
- Review films for adequate exposure and proper labeling.
- Conduct additional radiographs as requested by forensic specialists.
- Provide a written description of the points of similarity leading to identification to the Identification Team for review.
- Call-in bomb technician or other specialist, if needed.
- Ensure and document that a qualified forensic specialist has read each radiograph. Complete *VIP DMORT Program Radiology* form and place in the DVP.
- Sign and date *Tracking Form*.
- Give tracker DVP with completed *VIP DMORT Program Radiology* and *Tracking Form* checked and signed.
- Direct tracker to next station.

The Radiology Station may also:

- Assist other forensic specialists (pathologists, anthropologists, and odontologists) with the comparison of antemortem and postmortem radiographs.

Dental Identification Station

Dental identification operations are divided into three sections—the Postmortem Section, Antemortem Section, and the Comparison Section.

The Dental Postmortem Section performs the dental autopsy, including postmortem dental radiography and photography, and records the results in WinID or in a standardized format compatible with WinID. Documentation in the postmortem record includes photographs, radiographs, and charting of all dental structures and restorations.

The Antemortem Section is responsible for transcribing all available clinical information onto an antemortem record. This section, working closely with the Family Assistance Center, assists with the procurement of the clinical dental record or any other pertinent dental identification information. The *CalDIT Request for Clinical Information Form* can be used to assist law enforcement agencies with obtaining complete dental records. Documentation for the Antemortem Section includes radiographs, written record of treatment, and charting of all dental structures and restorations.

The Comparison Section compares antemortem and postmortem dental records for the purpose of identification. If all dental information is immediately entered into WIN ID correctly and transferred, the comparison can be done digitally.

Postmortem Section

The Postmortem Section performs the dental autopsy.

- Establish procedures/protocols for Postmortem Section.
- Enter information in *Dental Station Log*.
- Clean remains.
- Craniofacial Dissection. Any facial or dental dissection required for complete and accurate dental examination must be approved in advance by the ME/C. No craniofacial dissection will be performed if adequate information can be obtained without dissection.
 - If removed, the jaw is to be placed in a properly identified container and returned to the remains after processing.
- Visual Examination and Charting: Chart all dental structures and restorations. The universal dental numbering system (1-32 with the upper right 3rd molar as #1, upper central incisors as #8 and #9, upper left 3rd molar as #17 and lower right 3rd molar as #32) is usually preferred. The FDI numbering system can also be considered.
 - Record directly into WinID, if possible. Otherwise record onto standard forms and transfer to appropriate area for data entry.
- Radiographic Examination: A complete radiographic survey of the available craniofacial remains should be recorded using digital intraoral sensors. Extraoral radiography may be employed when available and practical if it assists identification.
- Dental Models: Impressions for dental models may be made if they will assist in identification of a decedent. Standard dental impression materials should be used following manufacturer instructions.
- Add digital radiographic files (e.g., Dexis) and digital photographs of impressions to decedent's WinID file.
- Transfer completed Win ID file to Comparison Section.
- Sign and date *Tracking Form*.
- Give tracker DVP with *Tracking Form* checked and signed.
- Direct Tracker to next station.

Antemortem Section

This section procures, analyzes, and consolidates dental information into a single, standardized, comprehensive antemortem dental record.

- Establish procedures/protocols for the Antemortem Section.
- Assist in procurement of dental records at the Family Assistance Center, via telephone, or visits to dental offices.
- Transcribe dental information from dental records into standard format using WinID nomenclature.
- Record antemortem dental information into WinID.
- Scan non-digital image information (radiographs and photographs) and enter into WinID graphics file.
- Enter digital image information into WinID graphics file.

Comparison Section

This section compares antemortem and postmortem dental information. Comparisons resulting in positive identifications are reported to the Identification Team.

- Establish procedures/protocols for the Comparison Section.
- Dental Comparison team members must be familiar with WinID, including advanced search and comparison functions.
- To facilitate the comparison process and minimize errors, teams will work in pairs, when possible,.
- Positive dental identification recommendations are agreed upon by two qualified individuals (one of whom is Board Certified by the American Board of Forensic Odontology) and confirmed by the Dental Team Leader before submission to the Identification Team.

Pathology Station

The Pathology Station is where complete or partial autopsies are performed. The decision to do a complete or partial autopsy resides with the local jurisdiction's ME/C (responsible for death certification). Some reasons for complete autopsies include: homicides, terrorism, indeterminate manner of death, flight crews (in which the same pathologist autopsies all members), unidentified human remains, and upon federal request.

- Establish procedures/protocols for the Pathology Station.
- Enter information in *Pathology Station Log*.
- Review radiographs.
- Document general physical characteristics.
- Document specific scars, tattoos, and other unique identifying features.
- Document injuries and trauma.
- Document and recover, when appropriate, internally implanted medical devices for identification.
- Document and recover evidence, if present.
- Collect and label appropriate toxicology and histology samples.
- Conduct a complete autopsy, if indicated.
- Document findings on the *VIP DMORT Program Pathology*.
- Sign and date *Tracking Form*.
- Give tracker DVP with completed *VIP DMORT Program Pathology* and *Tracking Form* checked and signed.
- Direct tracker to next station.
- Send properly labeled histology and toxicology specimens to the Final Holding Stations for transport to a lab for analysis.

Anthropology/Morphology Station

The Anthropology/Morphology Station provides comprehensive forensic anthropological documentation of human remains. It is where fragmented, incomplete, charred, and commingled remains are examined to determine a biological profile.

- Establish procedures/protocols for the Anthropology/Morphology Station.
- Log in remains in the *Anthropology Station Log*.
- Complete a standardized forensic anthropology report form.
- Evaluate and document the condition of the remains.
- Separate obviously commingled remains and return the remains to the admitting section for subsequent processing in the morgue.
- If the remains are fragmented, describe the anatomical structure(s) present.
- Provide a biological profile of the decedent or remains, including:
 - Sex,
 - Age at death,
 - Ancestry,
 - Forensic stature,
 - Antemortem trauma or pathology,
 - Anomalies and idiosyncratic variation including surgical hardware and prosthetic devices, and
 - Perimortem trauma.
- Document, remove and save non-human and/or non-biological materials for proper disposal.
- Follow Anthropology Specimen Cleaning Protocol if it is necessary to remove the tissue from bone features used for analysis of age, sex, or pathology in order to observe subtle features.
- Review x-rays.
- Review Pathology and Dental forms for consistency (bone, side, biological parameters, etc.).
 - If there is a discrepancy, the team consults with other team(s) to reach consensus on assessment.
- If a bone section or other specimen is retained, place it in a properly identified container and return to the remains after processing.
- Document (*VIP/DMORT Anthropology*) and place in the case file.
- Sign and date *Tracking Form*.
- Give tracker DVP with completed *VIP/DMORT Anthropology* and *Tracking Form* checked and signed.
- Direct tracker to next station.

The forensic anthropologist may also assist with:

- Obtaining DNA samples from bone.
- Taking radiographs (to ensure proper alignment of specimen).
- Interpreting trauma in consultation with the pathologist.
- Obtaining and isolating dental evidence in consultation with the odontologists.

- Interpreting and comparing antemortem and postmortem records and radiographs.
- Assisting the pathologists and odontologists in establishing identity via antemortem-postmortem radiographic comparison.
- Examining identified remains prior to release to confirm that the biological evidence used for identification matches the biological parameters of the remains.

DNA Station

The DNA Station is where DNA is retrieved to assist with identification when other means of identification of remains are inadequate. If a separate DNA station is not set up, DNA retrieval is done at the Pathology Station.

DNA analysis is expensive and its funding must be addressed. FEMA provides funding for the DNA identification effort if the incident meets its criteria for a disaster. However, confirming that funding for DNA analysis has been secured and contracts with appropriate laboratories and analysts are in place is important.

In the Hurricane Katrina (August 2005) response, DNA work did not begin until late December when federal funding was secured and appropriate contracts granted.

Specimens will come to DNA Station last.

Prior to collecting specimens, DNA specimen collection criteria and guidelines must be developed. AFDIL policies and procedures for mass fatality incident DNA collection can serve as a guide.

- Establish procedures/protocols for the DNA Station.
- Check to see if *Victim Tracking Form* indicates that the victim has been processed at all stations directed by the Screening Station. If a station has been skipped, return remains and file to that station for processing prior to admitting.
- Admit and enter information in *DNA Station Log*.
- Pre-label DNA collection tube(s).
- Take DNA sample(s)—whole blood, tissue, bone, teeth, or hair—as directed by protocol.
- Place DNA specimen in specimen tube that has been pre-labeled, by hand. The numbers should appear on the tube itself and on the lid.
- Give the specimen tube to the computer operator to:
 - Enter the MRN of the specimen, the type of material, and the exact nature of the specimen.
 - Generate two labels:
 - The first label is placed on the tube on the opposite side of the hand-written numbers, as close to the lid as possible.
 - The second label is placed on the plastic evidence bag.
 - Insert the labeled tube into the labeled bag.

- Heat-seal the bag and place it into a cooler or a -20° freezer until it is released to lab for analysis.
 - Once a specimen is frozen, it should remain frozen.
 - Complete *VIP/DMORT Program AFIP/DNA Specimen* and place in the DVP.
- Sign and date *Tracking Form*.
- Give tracker DVP with completed *VIP/DMORT Program AFIP/DNA Specimen* and *Tracking Form* checked and signed.
- Direct tracker to Final Holding.
- Route DNA samples to lab that will analyze the DNA with chain of custody documented.

Identification Station

This is a designated meeting area where possible identifications that have been determined as remains have been examined are reviewed and confirmed. The Identification Team, chaired by a pathologist, consists of representatives from pathology, anthropology, odontology, radiology, prints, DNA, and the ME/C Office.

Once identity is confirmed by the Identification Team, the information is presented to the ME/C, who will review and, if approved, issue a death certificate.

- Establish procedures/protocols for the Identification Team.
 - Convene Identification Team at the end of each working day.
 - Review all proposed identifications (based on examination and review of antemortem and postmortem records).
 - Possible identification methods include:
 - Prints,
 - Dental,
 - Medical radiography,
 - Distinctive physical characteristics,
 - Serial numbers on permanently installed devices,
 - DNA, and
 - Visual in some cases (personal effects do not constitute positive ID, but with other factors, may be considered).
 - For confirmed identifications, team members sign the *ID Summary Report* indicating concurrence for the identification.
 - Present signed *ID Summary Report* to ME/C for approval/signature.
 - Original report goes to IRC and copy of report to ME/C.
 - Prepare a standard death certificate according to normal ME/C Office procedures for identified remains.
-
- Transfer positive identifications to Family Assistance Center Death Notification Team. The ME/C Office is responsible for all death notification procedures.
 - Determine next of kin wishes, including decision of future notification and

decision on reassociation.

- Release names of decedents to the EOC and JIC *after* next of kin have been notified.
- Give instructions to Final Holding Stations in accordance with next of kin wishes for preparation for release of identified human remains and associated personal effects that are not deemed to be evidence.

When no human remains are recovered, or scientific efforts for identification prove insufficient, the ME/C will file a single verified petition with the superior court to judicially establish the fact, time, and place of death for individuals who die in a mass fatality incident. By California law, a hearing will be set no later than 15 days from the date the petition was filed.

If remains are later located and identified for an individual where a court ordered delayed certificate was prepared, a new standard death certificate is *not* prepared. Each decedent must have only one death certificate. However, the court ordered delayed certificate may be amended to reflect the disposition of human remains. Requests to replace a court-ordered certificate with a standard certificate are referred to the office of vital records.

Guidelines for the Long-Term Examination Center/Sifting Site

The Long-Term Examination Center Sifting Site may be needed when there is extensive property destruction with the commingling of human remains and limited operations need to continue after the temporary incident morgue closes and/or to provide additional working space for law enforcement and Hazmat/bomb technicians.

Often times, the emergency has officially been declared over and the incident site, temporary incident morgue, and Family Assistance Center are closed.

It is the responsibility of the ME/C Office to assure proper support and operation of the site as long as it is required.

Functions at the incident morgue that will be continued at the long-term examination center/sifting site will be determined by the ME/C prior to incident morgue demobilization.

Morgue Services Logistics

Morgue Services logistics requirements include:

- Staffing.
- Communications and information systems.
- Equipment and supplies.
- Facility requirements.



You will have to make decisions in your planning process to complete your logistics planning. The information below can be modified for your jurisdiction. You will then need to complete the column for alternate sources to include resources that are available in your jurisdiction. The exact number of resources required will depend on the nature of the incident and can only be determined at the time of the incident.

Procedures for Managing Logistics/Support Requirements

The Morgue Services Logistics Officer will identify ME/C incident site service and support needs and will work closely with Emergency Operations Center Logistics to procure and allocate service and support needs. The Logistics Officer will also work closely with morgue leadership to track and maintain required documentation for supplies, equipment, and personnel.

Step 5: Describe staffing requirements.

Morgue staffing consists of medical, forensic and mortuary professionals. This guide's goal is to present staffing requirements as teams. The number of teams needed to effectively respond to the incident will be determined based on the incident.

Guidelines for Finding Additional Morgue Services Staffing

Team members need to have the expertise required for specific functions.

- Request CA Coroner Mutual Aid, State-to-State Mutual Aid (Emergency Management Assistance Compact (EMAC), and/or DMORT, if needed. Requests are made to California's Region II Coroner Mutual Aid Coordinator by the ME/C Office in accordance with the State of California Coroners Mutual Aid Plan.
 - CA Coroner Mutual Aid can provide:
 - Morgue staff from other CA jurisdictions and from other states through EMAC.

- California Dental Identification Team (CalDIT).
- DMORT can provide:
 - All standard forensic and morgue operations staffing involving the
 - handling of remains.
 - management of data pertaining to the decedents.
 - cause and manner of death determinations.
 - embalming and release of remains.
 - production of identification reports.

Mutual Aid and DMORT requests need to be coordinated with the Emergency Operations Center. EOC Logistics will track requests, deploy Mutual Aid/DMORT personnel once they arrive, and provide housing and food for Coroner Mutual Aid and DMORT staff.

- Request local alternate staff through EOC Logistics.

Morgue required staff and possible alternate staff are presented in the table below. A team for each station is identified. The ME/C will determine the number of teams needed (and fill in the column on the left) based on the size and complexity of the incident.

Some alternate staff have been filled in. Continue to fill in alternate staff that are appropriate for your jurisdiction.

Incident Morgue Staffing Requirements		
# of Staff Requested	Required Staff	Alternate Staff
	Administration & Information Resources Center	Mutual Aid, DMORT
	Morgue Services OIC	
	Morgue Operations Group OIC	
	Examination Group OIC	
	Morgue Logistics Officer	
	Logistics Team	
	Communications clerks	
	Security—24 hours	Law Enforcement
	Information Resources Team Leader	
	Data entry clerks (trained in morgue software)	
	Data analysts (trained in morgue software)	
	Information systems specialist for electronic file backup	

Incident Morgue Staffing Requirements		
# of Staff Requested	Required Staff	Alternate Staff
	Communications clerks	
	Registrar	
	File Clerks	
	Receiving Station Team	Mutual Aid, DMORT
	Receiving Station Team Leader & Members	
	Receiving Team	
	Receiving Supervisor	
	Storage Workers	
	Radiograph Team	Mutual Aid, DMORT
	Radiograph Supervisor	
	X-ray Technician	
	Pathologist or anthropologist (to read radiographs)	
	Final Holding Team	Mutual Aid, DMORT
	Final Holding Supervisor	
	Storage Workers	
	Clergy to bless remains daily	
	After Care Team (if required)	Local Funeral Homes, CA Funeral Directors Association, Mutual Aid, DMORT
	After Care Team Leader	
	Embalming Team Leader	
	2 licensed embalmers with postmortem reconstructive surgery experience	
	Casketing Team Leader & Members	
	Cremation Team Leader & Members	
	Release of Human Remains Team	Mutual Aid, DMORT
	Release Supervisor	
	Release Team	
	Identification Team Leader/forensic specialists involved in identification (for Final Identification Review)	
	Drivers (to transport released human remains from	

Incident Morgue Staffing Requirements		
# of Staff Requested	Required Staff	Alternate Staff
	morgue to designated destination)	
	Admitting Station Team	Mutual Aid, DMORT
	Admitting Supervisor	
	Admitting clerks	
	Tracker Supervisor	
	10 Trackers	Law enforcement officers & ME/C approved volunteers from funeral homes
	Screening/Triage Station Team	Mutual Aid, DMORT
	Screening/Triage Team Leader	
	Pathologist	
	Anthropologist	
	Odontologist	
	ME/C Coroner Investigator	
	Evidence Technician	
	Bomb Tech or other specialist as indicated	
	Scribe	
	Photographer	
	Photography Assistant	
	Documentation Station Team	Mutual Aid, DMORT
	Documentation Team Leader	
	Photographer	
	Photography Assistant	
	Personal Effects Technician	
	Photography Runner	
	Print Station	Mutual Aid, DMORT
	Print Station Team Leader	Sheriff's Office, FBI Disaster Squad, Local Law Enforcement
	Print Specialist	
	Radiology Station Team	Mutual Aid, DMORT
	Radiology Team Leader	
	Radiologist	
	X-ray Technologist	

Incident Morgue Staffing Requirements		
# of Staff Requested	Required Staff	Alternate Staff
	Scribe	
	Dental Station Team	CalDIT, Mutual Aid, DMORT, Department of Defense Office of the Armed Forces Medical Examiner
	Dental Team Leader	
	Postmortem Team Leader	
	2 Odontologists	
	2 Dental Assistants	
	Photographer	
	Evidence technician	
	Scribe	
	Evidence Technician	
	Antemortem Team Leader (at FAC)	
	2 Forensic Dentists (at FAC)	
	Comparison Team Leader	
	2 Forensic Dentists	
	Pathology Station Team	Mutual Aid, DMORT, Department of Defense Office of the Armed Forces Medical Examiner
	Pathology Team Leader	
	Forensic pathologist	
	Autopsy technician (1 per pathologist)	
	Scribe (1 per pathologist)	
	Evidence technician	
	Bomb tech or other specialist (available when needed)	
	Forensic Photographer (available when needed)	
	Lab technician	
	Pathology Runner	
	Anthropology Station Team	Mutual Aid, DMORT
	Anthropology Team Leader (Forensic Anthropologist)	

Incident Morgue Staffing Requirements		
# of Staff Requested	Required Staff	Alternate Staff
	Forensic Anthropologist	
	Anthropology Assistant (to serve as scribe)	
	Evidence technician	
	Photographer	
	Radiographer	
	Forensic pathologist	
	Anthropology Runner	
	DNA Station Team	Armed Forces DNA Identification Laboratory (AFDIL) Department of Justice Bureau of Forensic Services Section DNA Analysis Mutual Aid & DMORT for specimen collection only
	DNA Station Team Leader	
	Autopsy Technician	
	Lab technician	
	DNA Runner	
	Identification Station Team	Mutual Aid, DMORT
	Identification Team Leader	
	Team is composed of staff from morgue stations (pathology, anthropology, odontology, radiology, prints, DNA, & ME/C Office)	
	ME/C (for review and approval)	
	Death Certificate	

Long-Term Examination Center/Sifting Center Staffing Requirements	
Required Staff	Alternate Staff
Officer in Charge	Mutual Aid, DMORT
Logistics Officer	Mutual Aid, DMORT
Teams from incident morgue as determined by ME/C	Mutual Aid, DMORT

Long-Term Examination Center/Sifting Center Staffing Requirements	
Required Staff	Alternate Staff
Additional resources determined by incident	
Security—24 hours	Law Enforcement
Workers capable of assisting with significant physical labor demands	Public Works

Support services—mental health, spiritual care, and medical services/first aid—will be needed at the incident morgue. Responding to a mass fatality can create traumatic stress. The support staff will assess behavioral health reactions in morgue services personnel and provide emotional and spiritual support, Psychological First Aid*, and medical care when needed.

*The literature suggests that psychological debriefing may have adverse effects on some disaster survivors and first responders. As a result, many disaster response organizations have chosen to utilize Psychological First Aid (PFA) as the supportive intervention of choice for responders in the early aftermath of disaster.

Step 6: Describe communication and information system requirements.

Morgue Services will need communications and information systems.

Guidelines for Determining Communications and Information Systems Requirements

- Develop a strategy for establishing lines of communication and managing information flow and for meeting information system needs.
- Consult with ME/C to determine mass fatality software that will be used (e.g., DMORT VIP, WIN ID, and/or local ME/C Office software). Note: See *Mass Fatality Information Systems* section of this toolkit.
- Secure redundant communications systems (interoperable with other systems being used at the site—especially radios) and information systems equipment.
- Train personnel in equipment use as needed.
- Implement safeguards and regulate access to information to ensure integrity of sensitive victim information.
- Have alternate backup systems in case there are problems with main communication lines, Web-based or area networks, electronic database systems or if these systems are not available.

Planning Considerations

- Establish key points of contact and phone lists of staff and of responding organizations and agencies.
- Identify the communications needs of morgue personnel.
- Identify the methods of communication that will be used and how they will be integrated into morgue functions.
- Identify redundant communications systems to meet the needs of personnel.
- Determine what information is essential to support the operation.
- Establish an information management system that provides standard and centralized processes and procedures for collecting, processing, retrieving, controlling, and reporting information.
- Identify information systems that will be used in addition to mass fatality software specified by ME/C.
- Identify critical information for after action reports, records preservation, and historical documentation of the operations.
- Produce diagrams and signage to communicate important information and manage traffic flow.

Step 7: Describe equipment and supply requirements.

Morgue equipment and supplies can be accessed within the jurisdiction and through California Coroner Mutual Aid, the Emergency Management Assistance Compact (EMAC), and DMORT.

If the number of decedents can be handled by the jurisdiction's morgue, EOC Logistics will be very involved in securing needed equipment and supplies.

If the number of decedents is too great for the jurisdiction's morgue to handle, it is likely the a Disaster Portable Morgue Unit (DPMU), which includes equipment and supplies (over 10,000 individual items), will be requested by the ME/C and EOC Logistics role will be to manage receipt, delivery and setup of equipment/supplies (with the DPMU core team).

Guidelines for Morgue Services Equipment and Supplies

The Morgue Logistics Officer manages morgue services equipment and supplies.

- Requests for additional supplies are made to EOC Logistics.
- Requests for California Coroner Mutual Aid and DMORT supplies/equipment are made to California's Region II Coroner Mutual Aid Coordinator by the ME/C in accordance with the State of California Coroners Mutual Aid Plan.

DMORT's Disaster Portable Morgue Unit (DPMU) is a packaged system containing all forensic equipment, instrumentation, support equipment, and administrative supplies required to operate an incident morgue facility under field conditions or support an existing morgue facility. The DPMU carries computers and related equipment to support the Family Assistance Center and Information Resource Center in the management of postmortem and antemortem information.

Three fully equipped DPMUs are maintained. They are located in Moffett Field, CA, Ft. Worth TX, and Frederick, MD. DPMUs are deployed rapidly, along with logistical specialists to establish and manage the DPMU. A DPMU can be requested even if DMORT staffing assistance is not needed (e.g., staffing needs can be met through Coroner Mutual Aid).

To ensure safety, DPMU pallets must be off-loaded and opened as directed by the DPMU team.

The basic floor plan of the incident morgue will incorporate the ME/C's proposed layout for the morgue stations. The setup, normally under the direction of the DPMU team with the assistance of the ME/C Office and Regional DMORT members, will be done in accordance with established DPMU procedures.

- Mutual Aid and DMORT requests need to be coordinated with the Emergency Operations Center. Once requested EOC Logistics follows-up to track, manage receipt, delivery and setup of supplies and equipment.

A table of equipment and supplies is not included here. It is recommended that you use your jurisdiction's ME/C Office supplies list since the required supplies are the supplies typically used in a morgue. An advantage of using your jurisdiction's supplies list is that it provides purchasing information (e.g., description, manufacturer/vendor, catalogue number, unit of measure, and price).

Long-Term Examination Center/Sifting Site

Supplies and equipment needed for the long-term examination center/sifting site will be based on the ME/C decision regarding morgue stations that will operate at this site, which will be based on the incident and will be determined at that time, and other requirements based on the incident.

Step 8: Describe facility requirements.

The site requirements for an incident site morgue and for a long-term examination/sifting site are specified below.

Incident Morgue Site Requirements

The incident morgue facility must meet certain requirements for size, layout, and support infrastructure and provide adequate parking for morgue staff. Administrative offices are necessary and may require the use of portable buildings established on site.

The following site suggestions are based on DMORT experience.

- Airplane hangars and abandoned warehouses have served well as incident morgues.
- Consideration should be given to the possible stigma that may be attached to a temporary morgue. Facilities such as school gymnasiums, public auditoriums, churches, or similar facilities that will be used by the general public after the disaster are not recommended.
- The selected facility should not have adjacent occupied office or work space.
- Facility is available for the time frame necessary.
- If a building is not available, a large banquet style tent or prefabricated building—with arrangements for sufficient flooring, HVAC, electrical, and water requirements—built on site may be used. A portable tent unit with adequate flooring, heating and air conditioning may be available through contract.
 - Modular tents with sealed floors may be better suited for incidents with contaminated remains.

Security Considerations

- Secure entrance(s) to general area.
- Secure entrances into facility with uniformed guards.
- Security for entire site.
- Removed from public view. May require screening.
- Removed from the Family Assistance Center in a “need to know” location.

DMORT’s Disaster Portable Morgue Units (DPMU) site requirements are presented below for guidance.

DPMU Site Requirements

Structure Type

- Hard, weather tight roofed structure.
- Separate accessible office space for Information Resource Center and for administrative needs/personnel.
- Space for staff support and rest. Supporting and maintaining the readiness and optimal capabilities of the morgue’s most valued resource—its staff and volunteers is critical to an effective response.
- DPMU re-supply and staging area minimum of 5,000 square feet.
- Non-porous floors, preferably concrete. Floors need to be capable of being decontaminated (hardwood and tile floors are porous and not usable).

- Heat or air conditioning (depending on season).
- Ventilation.

Size

- Adequate space for examination, administrative, and rest areas.
- Minimal size of 10,000-12,000 square feet.
- More square footage may be necessary for casket storage or other mission-specific needs.

Accessibility

- Tractor trailer accessible.
- 10-foot by 10-foot door (ground level or loading dock access).
- Parking areas for staff and trucks.

Electrical

- Electrical equipment utilizes standard household current (110-120 volts).
- Power obtained from accessible on site distribution panel (200-amp draw).
- Electrical connections to distribution panels made by local licensed electricians.
- If no house power available the incident morgue will need 125K generator and a separate 70K generator for Admin and Information Resources Center.
- Small 7K diesel generators are carried in DMORT's DPMU cache for temporary power of specific equipment.

Water

- Hot and cold water or single source of cold water with standard hose bib connection.
 - Water hoses, hot water heaters, sinks, and connectors in the DPMU.
- Restrooms.
- Showers.

Communications Access

- Existing telephone lines for multiple telephone/fax capabilities.
- Expansion of telephone lines may occur as the mission dictates.
- Broadband Internet connectivity.
- If additional telephone lines are needed, only authorized personnel will complete any expansion or connections.

Sanitation/Drainage

- Pre-existing rest rooms within the facility are preferable.
- Gray water will be disposed of utilizing existing drainage.
- Biological hazardous waste, liquid or dry, produced as a result of morgue operations, will be disposed of according to local/state requirements. Bulk disposal tanks may be needed.

Human Remains Storage Considerations

- Ideal temperature for storing and preserving human remains is between 34-37° F.
- If trucks are used:

- *40 foot trailer can hold 22 pouched remains.* If shelving is installed at 3-3 1/2 feet off the floor and does not go above waist level, the number can be doubled and transporter back injuries avoided.
- *Avoid stacking remains on top of each other* to prevent distortion of features and to allow easier moving.
- Ensure:
 - Company names/logos are covered up.
 - Interior of the trailer is metal for later decontamination.
- Ramps are required.
- Contract includes fueling, truck drivers and refrigeration maintenance.
- If cooled room is used:
 - Store remains on floor (do not stack), or
 - Store on tables.

Special Equipment Needs

- All terrain forklift capable of lifting ten to fifteen thousand pounds, with six-foot forks, or fork extensions to safely off-load the DPMU pallets.
- A smaller forklift, capable of lifting two to four thousand pounds, is needed to move heavy equipment within the morgue during setup.

Miscellaneous Requirements

- Consider the placement of refrigerated trailers for morgue personnel access.
- The number of decedents dictates the number of refrigerated trailers needed.
- Separate refrigerated trailers need to be designated for the separation of processed from unprocessed remains.

Exact placement of the morgue within the facility is determined by electrical source location, water source location, morgue accessibility by personnel, placement of refrigerated trailers, the morgue flow plan, and security concerns. The ME/C will work with the Regional DMORT Commander and the DPMU Team Commander to determine morgue placement within the facility.

Once the placement is determined, the DPMU Team will oversee all aspects of the setup in accordance with DMORT procedures. This includes staging, floor preparation, basic layout (respecting ME/C Office specified workflow/layout), electrical and water distribution systems, drainage and liquid waste disposal, equipment dispersal, work station setup, accountable property, staged DPMU pallets, and inventory and re-supply.

Long-Term Examination/Sifting Site Requirements

Many of the requirements for the incident morgue will also be requirements for the long-term examination center/sifting site. If the incident requires a long-term examination center/sifting site, the ME/C Office will determine requirements at that time based on the incident.

Associated Tools and Resources

Job Responsibility Checklists

The job responsibility checklists in this toolkit present a general summary of actions. It should be understood that:

- Some required actions may not be listed, but must be identified and assumed by the appropriate position.
- Some actions may be the primary responsibility of a particular position, but may require assistance and coordination from other position(s).
- The actions are listed in a general chronological order, but deviation may be required to meet incident objectives.

The Common Responsibilities Job Checklist presents general actions that pertain to ALL personnel of the Coroner's Services Branch. In addition to instructions listed in their respective job responsibility checklists, all personnel are responsible for the Common Responsibilities. The Common Responsibilities Job Checklist is only included with the *Command and Control* section of this toolkit.

The following job responsibility checklists are attached.

- Morgue Services Officer in Charge.
- Morgue Logistics Officer.

Responsibilities of the:

- Morgue Operations Group OIC.
- Examination Group OIC.
- Receiving Specialist.
- Tracker.
- Photography Specialist.
- Print ID Specialist.
- Release Specialist.

are available in the California Governor's Office of Emergency Services Law Enforcement Branch's *Coroner Mutual Aid, California Coroner Operations Guide* at:

<http://www.oes.ca.gov/Operational/OESHome.nsf/Content/A3F586FD13D795C788256B7B0029BBFF?OpenDocument>. Then click on Coroner's Mutual Aid.

Forms

Transportation Log
VIP/DMORT Program Tracking Form
Chain of Custody
VIP/DMORT Program Clothing Inventory
VIP/DMORT Program Jewelry Inventory
VIP/DMORT Program Fingerprinting
Release of Human Remains
External Preparation/Embalming Case Report
Embalming Classification of Human Remains
VIP/DMORT Program Radiology
VIP/DMORT Program Pathology
VIP/DMORT Anthropology
VIP/DMORT Program AFIP/DNA Specimen
VIP/DMORT Personal Information Questionnaire

Additional Forms can be found in the National Association of Medical Examiners Mass Fatality Plan. It is available at: www.dmort.org. to find it, click on 'Forms.'

Resources

Mass Fatality Plan by the National Association of Medical Examiners has a mass fatality resource list (pages 15-18). It is available at:
<http://www.dmort.org/FilesforDownload/NAMEMFIplan.pdf>.